

SEQUENCE LISTING

SEQ ID NO: 1

MVLLYSQASWDKRSKADALVLPFWMKNSKAQEAAVVDEDYKLVYQNALSNSFGKKG
 ETAFLFGNDHTKEQKIVLLGLGKSEEVSGTTVLEAYAQATTVLRKAKCKTVNILLPTISQ
 LRFSVEEFLTNLAAGVLSLNYYNPTYHKVDTSLPFLEKVTVMGIVSKVGDKIFRKEEESLF
 EGVYLTRDLVNTNADEVTPKLAAVAKDLAGEFASLDVKILDRLKAILKEKMGLAAVA
 KGAAVEPRFIVLDYQGKPKSKDRTVLIGKVTFDGGDLKPGKAMITMKEDMAGAAT
 VLGIFSALASLELPINVGTIPATENAIGSAAYKMGDVYVGMTGLSVEIGSTDAEGRLLA
 DAISYALKYCNPCTRIIDFATLTGAMVVSLGESVAGFFANNDVLARDLAEASSETGEALW
 RMPLVEKYDQALHSIDIADMKNIGSNRAGSITAALFLQRFLEDNPVAWAHLDIAGTAYHE
 KEELPPKYATGFGVRCLIHYMEKFLSK

SEQ ID NO: 2

MTASGGAGGLGSTQTVDVARAQAAAATQDAQEVIQSQEASEASMLKGCEDLINPAAAT
 RIKKKGEKFESLEARRKPTADKAEEKKSESTEKGDTPLEDRFTEDLSEVSGEDFRGLKNS
 FDDDSSPDEILDALTSKFSDPТИKDLALDYLIQTAPSДGKLKSTLIQAKHQLMSQNPQAIV
 GGRNVLASSETEASRANTSРSSLRSLYFQVTSSPSNCANLHQMLASYLPEKTAVMEELV
 NGMVAIDLKSEGPSIPPAKLQVYMTELSNLQALHSVNSFFDRNIGNLENSLKHEGHAPIPS
 LTTGNLTKTFLQLVEDKFPSSSKAQKALNELVGPDTGPQTEVNLFFRALNGCSPRIFSGA
 EKKQQLASVITNTLDAINADNEDYPKPGDFPRSSFSSTPPHAPVPQSEIPTSPTSTQPPSP

SEQ ID NO: 3

MCIKRKKTWIAFLAVVCSFCLTGCLKEGGDSNSEKFIIVGTNATYPPFEVDKRGEVVGFD
 IDLAREISNKLGKTLDVREFSFDALILNLKQHRIDAVITGMSITPSRLKEILMIPYYGEEIKH
 LVLVFKGENKHLPLTQYRSVAVQTGTYQEAYLQSLSEVHIRSFNSTLEVLMEVMHGKS
 PVAVLEPSIAQVVLKDFPALSTATIDLPEDQWVLGIGIVASDRPALALKIEAAVQEIRKE
 GVLAELEQKWGLNN

SEQ ID NO: 4

MSEKRKSNKIIGIDLGTTNSCVSVMEGGQPKVIASSEGTRRTTPSIVAFKGGETLVGIPAKR
 QAVTNPEKTLASTKRFIGRKFSEVESEIKTVPYKVAAPNSKGDAVFDVEQKLYTPEEIGAQI
 LMKMKETAEAYLGETVTEAVITVPAVFNDQRASKDAGRIAGLDVKRIIPEPTAAALA
 YGIDKEGDKKIAVFDLGGGTFDISILEIGDGVFEVLSTNGDTHLGGDDFDGVIINWMLDEF
 KKQEGIDLSKDNMALQLKDAAEKAKIELSGVSSTEINQPFFITIDANGPKHLALTTRAQF
 EHLASSLIERTKQPCAQALKDAKLSASDIDDVLLVGGMSRMPAVQAVVKEIFGKEPNKG
 VNPDEVVAIGAAIQGGVLGGEVKDVLLDVIPLSLGIETLGGVMTPLVERNTTIPTQKKQI
 FSTAADNQPAVTIVVLQGERPMAKDNKEIGRFDLTDIPPAPRQHPQIEVTFDIDANGILHV
 SAKDAASGREQKIRIEASSGLKEDEIQQMIRDAELHKEEDKQRKEASDVKNEADGMIFRA
 EKAVKDYHDKIPAEVKEIEHIEKVRQAIKEDASTTAIKAASDELSTHMQKIGEAMQAQ
 SASAAAASSAANAQGGPNINSEDLKKHSFSTRPPAGGSASSTDNIEDADVEIVDKPE

SEQ ID NO: 5

MHDALQSILAIQELDIKIMIRLMRVKKEHQNELAKIQALKTDIRRKVEEKEQEMEKLKDQI
 KGGEKRIQEISDQINKLENQQAAVKKMDEFNALTQEMTAANKERRTLEHQLSDLMDKQ
 AGSEDLISLKESLSSTENSSAIEEEIRENIRKINEGRSLLSQRQLKETTDPELFSIYERL
 LNNKDRVVVPIENRVCSCGCHIALTPQHENLVRKQDHLVFCHECSRILYWQELQSPSAE
 GATTKRRRRRTAV

SEQ ID NO: 6

MKKFLLLSSLMSLSSLPFTAANSTGTIGIVNLRRCLEESALGKESAEFEKMKNQFSNSMG
 KMEEELSSIYSKLQDDYMEGLSETAAEELRKKFEDLSAEYNTAQGQYYQILNQSNLKR
 MQKIMEEVKKASETVRIQEGLSVLLNEDIVLSIDSSADKTDAVIKVLDDSFQNN

SEQ ID NO: 7

MTTESLETLVQLSGLTVLELSQLKKLLEEKWDVTAAAPVVAVAGAAAAGDAPASAEP
 TEFAVILEDVPSDKKIGVLKVVREVTGLALKEAKEMTEGLPKTVKEKTSKSDAEDTVKK
 LQEAGAKAVAKGL

SEQ ID NO: 8

MKKTALLAACSVVSLSSCCRIVDCCFEDPCAPIQCSPCESKKKDVGCGNSCNGYVPA
 CKPCGGDTHQDAKHGPQARGIPVDGKCRQ

SEQ ID NO: 9

MPKIDTCDSVSNTELLAIRTRVTQSYNEAQTLSSIPDGIFLLSESGEILICNPQARAILGIP
 EDIQLVTRMFHDFFPDTFFGFSVQBALEKEVPPKTIRLTLSQELSQKEVEVFVRKNISHDFL
 FLLIRDRSDYRQLEQAIKEYRSISELGKIAATLAHEIRNPLTSISGFATLLKEELSSERHQRM
 LNVIEGTRSLNSLVSSMLEYTKIQLNLSIDLQDFESSLIPELSITFPSCTFRRTILSPIQRSI
 DPDRLRCVIWNLVKNAVEASDEEIFLELHEKGFSVINTGTLPPNIQEKLIFIPFFTCKPQNG
 LGLAEAHKIMRLHGGDLVVSTQDNRTTFTLWTPA

SEQ ID NO: 10

MKVILRALCLFLVLPCCYARVPSFEPFRGAIAPNRYTPKHSPELYFEMGDKYFQAKKFK
 QALLCFGMTTHFPEHALHPKAQFLVGLCYLEMGHPDLAQKALTQYQELADTEYSEQLF
 AIKYSIAQSFANGKRKNIVPLEGFPKLLKADTDALRIFEEIVTASSDADLKASALYAKGAL
 LFDRKEYSEAIKTLKKVSLQFPHSLSPESTLIAKIHCLQALQEPEYNEQYLQDARMNAAA
 LRKQHPNHPSTEVENYIHHMCEAYASCLYSTGRFYEKKRKASSAKIYYSIALENFPDTS
 YVAKCNKRLERLSKQMS

SEQ ID NO: 11

MFDVVVISDIEAREIILDSRGYPTLCVKVITNTGTFGEACVPSGASTGIKEALELRDKDPKRY
 QGKGVLQAISNVEKVLMALQGFSVFDQITADAIMIDADGTPNKEKLGANAILGVSLAL
 AKAANLQRPLYRYLGGSFSHVLPCKMMNLINGGMHATNGLQFQEFMIRPISAPSLTE
 AVRMGAEVFNALKKILQNRQLATGVGDEGGFAPNLASNAEALLLLTAIETAGFTPRED
 ISLALDCAASSFYNTQDKTYDGKSYADQVGILAECEHYPIDSIEDGLAEEDFEGWKLLS
 ETLGDRVQLVQDDLFVTNSALIAEGIAQGLANAVLIKPNQIGLTETAEAIRLATIQQYAT
 ILSHRSGETEDTTIADLAFAFNTPQIQTGSLSRSERIAKYNRMLMAIEEMGPEALFQDSNPF
 SKA

SEQ ID NO: 12

MMKRLLCVLLSTSVFSSPMLGYSASKDSKADICLAVSSGDQEVSQEDLLKEVSRGFSR
 VAAKATPGVVIENFPKTGNQAIASPGNKGQENPFDYFNDEFFNRFFGLPSHREQQRP
 QQRDAVRGTGFIVSEDGYVVTNHHVVEDAGKIHVTLHDGQKYTAKIVGLDPKTDLAVI
 KIQAELPFLTFGNSDQLQIGDWAIAGNPGLQATVTGVVISAKGRNQLHIVDFEDFIQT
 DAAINPGNSGGPLLNINGQVIGVNTAIVSGSGGYIGIGFAIPSLMAKRVIDQLISDGQVTRG
 FLGVTLQPIDSELATCYKLEKVY GALVTDVVKGSPAEKAGLRQEDVIVAYNGKEVESLS
 ALRNAISLMMPGTRVVLKIVREGKTIEIPVTVTQIPTEDGV SALQKMGRVQVNTPCICKK
 LGLAADTRGILVVAVEAGSPAASAGVAPGQLILA VNRQRVASVEELNQVLKNSKGENVL
 LMVSQGDVVRFTVLKSDE

SEQ ID NO: 13

MKKINKIVLA VGGTGGHIIPALAARETFIHEDIEVLLL GKG LAHFLGDDSEVAYCDIPSGS
 PFSLRVNRMFSGAKQLYKGYVAALQKIRDFTPDLAIGFGSYHSLPAMLASIRSRIPFLHE
 QNIVPGKVNKLFSRFAKGVGMSFAAAGEHFHCRAEEVFLPIRKLS EQIVFPGASPVCVV
 GGSQGAKILNDVVPKALARIRESYSNLYVHHIVGPKGDLQAVSQVYQDAGINHTVTAFD
 HNMLGVLQASDLVISRGATMLNELLWVQVPAILIPYPGA YGHQEVN A KFFHTVGGGT
 MILQKYLTEESLSKVLLALDPATSENRRKAMLSAQQQKSFKSLYQFICESL

SEQ ID NO: 14

MGNSGFYLNTQNCVFADNIKVQGMTEPLKDQQIILGTTSTPVAAKMTASDGISLT VSN
 NPSTNASITIGLDAEKAYQLILEKLG DQILGGIADTIVDSTVQDILDKITTDPSLGLLKAFN
 NFPITNKIQCNGLFTPRNIETLLGGTEIGKFTVTPKSSGSMFLVSADIASRMEGGVVLALV
 REGDSKPYAISYGYSSGVPNLCSLRTRIINTGLTPTTYSLRVGGLESGVWWVNA L SNGNDI
 LGITNTSNVSFLEVIPQTNA

SEQ ID NO: 15 (pmpA)(CT412)

MNRVIEIHAHYDQRQLSQSPNTNFLVHHPYLTLLIPKFLLGALIVYAPY SFAEMELAISGHK
 QGKDRDTFTMISSCPEGTYIINRKLILSDFSLLNKVSSGGAFRNLAGKISFLGKNSSASIH
 FKHININGEGAGVESESSIEFTDLRKLYAEGSESTGGIFTAKEDISEKNNHHIAFRNNTITKGM
 GGVILQLQGDMKGSVFDQRGAIIFTNNQAVTSSSMKHSGRGG AISGDFAGSRLFLNNQ
 QITFEGNSAVHGGAIYNKNGLVEFLGNAGPLAFKENTTIANGGAIYTSNFKANQQTSPILF
 SQNHANKGGAIYAQYVNLEQNQDTIRFEKNTAKEGGGAI TSSQCSITAHTNIIIFSDNAA
 GDLGGGAILLÉGKKPSLTIAHSGNIAFSGNTMLHITKKASLDRHNSILIKEAPYKIQ LAA
 NKNHSIHFFDPVMALSASSSPIQINAPEYETPFFSPKGMTIVFSGANL D DAREDVANRTSIF
 NQPVHLYNGT LSIENG A H LIVQSFKQTGGRISLSPGSSLALYT MNSFFHGNIS SKEPLEING
 LSGFV DDISPSNLQAEIRAGNAPLRLSGSPSIHDPEGLFYENRDTAASPYQMEILLTSDKIVDI
 SKFTTDSLVTNKQSGFQGAWHFSWQPNTINNTKQKILRASWLPTGEYVLESNRVGR A VP
 NSLWSTFLLLQTASHNLGDHLCNNRSLIPTSYFGVLIGGTGAEMSTHSSEEEFISRLGAT
 GTSIIRLTPSLTLGGGGSHMFGDSFVADLPHEITSEGIVQNVGLTHVWGPLTVNSTLCAAL
 DHNAMVRICSKKDHTYKWKDTFGMRGTLGASYTFLEYDQTMRVFSFANIEATNILQRA
 FTETGYNPRSF SKTKLLNIAIPIGIGYEFCLGNSSFALLGKGSIGYSRDIKREN P STLAH LAM
 NDFAWTTNGCSVPTSAHTLANQ LRYKACSLYITAYTINREGKNLSNSLSCGGYVGF

SEQ ID NO: 16 (pmpB)(CT413)

MKWLSATAVFAAVLPSVSGFCFPEPKELNFSRVGTSSSTTFTETVGEAGAEYIVSGNASP
 TKFTNIPTTDTTPTNSN SSSNGETASVSE DSDSTTT PDPKGGGAFYNAHSGVLSFMTR
 SGTEGSLTLSEIKITGE GGAIFS QGELLFTDLTGLTIQNNLSQLSGGAIFGESTISLSGITKAT
 FSSNSAEVPAPVKKPTEPKAQT ASETSGSSSSGNDVSSPSSRAEPAAANLQSHFICATA
 TPAAQTD TETSTPSHKGPGSGGAIYAKGDLTIADSQEVLSINKATKDGGAIFAEKDV SFEN
 ITSLKVQTNGAEKGGAIYAKGDL SIQSSKQSLFNSNYSKQGGGALYVEGDINFQDLEEIR
 IKYKAGTFETKKITLPKAQASAGNADAWASSSPQSGSGATTVNSNGDSSSGSDTSET
 VPATAKGGGLYTDKNLSITNTGII EIANNKATDVG GGA YVKGLTCENSHRLQFLKNSS
 DKQGGGIYGEDNITLSNLTGKTLFQENTAKEEGGLFIKGTDKALTMTGLDSFCLINNTS
 EKHGGGAFVTKEISQTYTSDVETIPGIPVHGETVITGNKSTGGNGGVCTKRLALSNLQ
 SISISGNSAAENGGAHTCPDSFTADTAEQPAAASAATSTPESAPV VSTALSTPSSSTVSS
 LTLLAASSQASPATSNKETQDPNADTDLLIDYVVDTTISKNTAKKGGGIYAKKAKMSRID
 QLNISENSATEIGGGICCKESLELDALVSLSVTENLVKEGGGLHAKTVNISNLKSGFSFS
 NNKANSSSTGVATTASAPAAAASLQAAA AVPSSPATPTYSGVVGGA YGEKVTFSQC
 SGTCQFSGNQ AIDNNPSQSSLNVQGGAIYAKTSLSIGSSDAGTSYIFSGNSVSTGKSQTTG
 QIAGGAIY SPTVTLNCPATFSNNTASMATPKTSS EDGSSGNSIKDTIGGAIAGTAITLSGV
 RFSGNTADLGAAIGT LANANTPSATSGSQNSITEKITLENGSIFERNQANKRGA YSPSVS
 IKGNNITFNQNTSTHDGSAIYFTKD ATIESLGSVLFGNVTATQASSATSGQNTNTANY

GAAIFGDPGTTQSSQTDAILTLLASSGNITFSNNSLQNNQGDTPASKFCISIAGYVKLSLQA
 AKGKTISFFDCVHTSTKIGSTQNVEYETLDINKEENSNPYTGTIVFSSSELHENKSYIPQNAI
 LHNGTLVLKEKTELHVVSFEQKEGSKLIMKPGAVLSNQNIANGALVINGLTIDLSSMGT
 QAGEIFSPELRIVATTSSASGGSGVSSSIPTNPKRISAAAPSGAATTPTMSENVFLTGD
 TLIDPNGNFYQNPMLGSLDVPLIKLPTNTSDVQVYDLTSGDLFPQKGYMGWTLD
 PQTGKLQARWTFDTYRRWVYIPRDNHFYANSILGSQNSMIVVKQGLINNMLNNARFDDI
 AYNNFWVSGVGTFLAQQGTPLEEFSYYSRGTSVAIDAKPRQDFILGAAFSKMVGKT
 IKKMHNYFHKGSEYSYQASVYGGKFLYFLLNKQHGWALPFLIQGVVSYGHIKHDT
 YPSIHERNKGDWEDLGWLADLRISMDLKEPSKDSSKRITVYGELEYSSIRQKQFT
 HFDDCAYRNLSLPVGCAVEGAIMNCNILMYNKLALAYMPSIYRNNPVCKYRVLSSNEA
 GQVICGVPTRTSARAESTQLYLGPFWLYGNYTIDVGMYTLSQMTSCGARMIF

SEQ ID NO: 17 (pmpC)(CT414)

MKFMSATAVFAAALSSVTEASSIQDQIKNTDCNVSKLGYSTSQAFTDMMLADNTEYRA
 ADSVSFYDFSTSSRLPRKHLSSSEASPTTEGVSSSSGETDEKTEEELDNGGIYAREKLTI
 SESQDLSNQSIELHDNSIFFGEGEVIFDHRVALKNGGAIYGEKEVVFENIKSLLVEV
 NIAVEKGGSVYAKERVSLENVTEATFSSNGGEQGGGGIYSEQDMLISDCNNVHFQGNAAGAT
 AVKQCLDEEMIVLLAECVDSLSEDTLDSTPETEOTESNGNQDGSETEDTQVSESP
 PPSDDVVLGKGGGIYTEKSLTITGTTGIDFVSNIATDSGAGVFTKENLSCNTTNSLQFL
 KNSA
 GQHGGGAYVTQTMSTNTSESITPPLIGEVIFSENTAKGHGGGICTNKLSSLNLKTV
 TLT
 TKNSAKESGGAI
 FTDLASI
 PTDPESTPSSSSPASTPEV
 VASAKINRFFASTAKPAAPSLTE
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TCDKNESASQGGAIFGKNCQISDNEGPVVF RDSTA CLGGAI AAQEI VS IQNNQAGISFEG
 GKASFGGIACGSFSSAGGASV LGTIDISKNLGAISFSRTLCTSDLGQMEYQGGGALFGE
 NISLSENA GVLTFKDNTVKTFA SNGKILGGAILATGKVEITNNSEGISFTGNARAPQALPT
 QEEFPLFSKKEGRPLSSGYSGGGAILGREVAILHNAAVVFEQNRLQCSEEATLLGCCGG
 GAVHGMDSTSIVGNSSVRFGN NYAMGQGVSGGALLSKTVQLAGNGSVDFSRNIA SLGG
 GALQASEGNCELVDNGYVLFRDNRGRVYGGAI SCLRGDVVISGNKGRVEFKDNIATRLY
 VEETVEKVEEVEPAPEQKDNNELSFLGRAEQSFI AANQALFASEDGDLSPESSISSEELA
 KRRECAGGAIFAKRVRIVDNQEA VVFSNNFSDIYGGAI FTGSLREEDKLDGQIPEVLISGN
 AGDVVFSGNSSKRDEHLPTHGGAI CTQNL TISQNTGNVLFYNNVACSGGA VRIEDHGN
 VILLEAFGGDIVFKGNSSFRAQGS DAIYFAGKESHTALNATEGHAI VFDALVFNLEER
 KSAEVLLINSRENPGYTGSIRFLEAESKVPQCIHVQQGSLELLNGATLCSYGFKQDAGAK
 LVLAAGAKLKILD SGTPVQQGHAISKPEAEI ESSSEPEGAHSLWIAKNAQTTVPMVDIHTI
 SVDLASFSSSQEGTVEAPQVIVPGGSYVRSGELNLELVNTTGTGYENHALLKNEAKVPL
 MSFVASGDEASAEISNLSVSDLQIHVVTPEIEEDTYGHMGDWSEAKI QDGT LVISWNPTG
 YRLDPQKAGALVFNALWEEGA VLSALKNARFAHNLT AQRMEFDY STNVWGFAFGGFR
 TLSAENLVAIDGYKGAYGGASAGV DQLMEDFVLGVSGAAFLGKMDSQKFDAEVS RKG
 VVGSVYTGFLAGSWFFKGQYSLGETQNDMKTRYGVLGE S ASWTSRGVLADALVEYRS
 LVGPVRPT EYALHFN PYVEVSYASMKEPGETEQGREARSFEDASLTNTIPLGMKEELAEI
 KGQFSEVNSLGISYAWEA YRKVEGGAVQ LLEAGFDWEGAPMDLPRQELRVALENNT
 WSSYFSTVGLTAFCGGFTSTD SKLGYEANTGLRLIF

SEQ ID NO: 19 (pmpE)(CT869)

MKKAFFFLIGNSGLAREVPSRIFLMPNSVPDPTKESLSNKISLTGDTHNLTCYLDNL
 RYILAILQKTPNEGA AVTTIDYLSFFDTQKEGIYFAKNLTPESGGAI GYASPN SPTVEIRD T
 GPVIFENNTCCRLEFTWRNPYAADKIREGGAI HAQNL YINHNHDVVGFMKNFSYVQGGAI
 STANTFV VSENQSCFLMDN ICIQTNTAGGGAI YAGTSNSFESNNCDLFFINNACCAGG
 AIFSPICSLTGNRGNIVF YNNRCFKN VETASSEASDGGAI KVTTRLDVTGNRGRIFFS DNT
 KNYGGAI YAPVVTLVDNGPTYF INNIANNKGGA IYIDGT SNSKISADRHA II FNENITNV
 TNANGTSTSANP PRRNAITVASSGEILLGAGSSQNLIFYDPIEVSNAGVS VSFNKEADQT
 GSVVFSGATVNSADFHQRNLQTKTPAPLTSNGFLCIEDHAQLTVN RFTQTGGV VSLGN
 GS VVFSGATVNSADFHQRNLQTKTPAPLTSNGFLCIEDHAQLTVN RFTQTGGV VSLGN
 SLSDVKLSLIDDYGNSPYESTDLTHALSSQPM L SIEASDNQLQSENIDFGLNVPHYGWQ
 GLWTWGWA KTQDPE PASSATITDPQKANRFHRTLLL TWLPAGYVPSPKHRSPLANTLW
 GNMLLATESLKNSAELTPSGHFPWG ITGGGLGMMVYQDPRENHPGFHMRSSGYSAGMI
 AGQTHTFSLKFSQTYTKLNERYAKNNVSSKNYSCQGEMLFSLQEGFLLT KLVGL YSYGD
 HNCHHFYTQGENLTSQGTFRSQTMGAVFFDLP MKPFGSTHIL TAPFLGALGIYSSL SHF
 TEVGA YPRSFSTKTPLINVLVPIGVKGSMNATHRPQA WTVELAYQPVLYRQE PGIA AQL
 LASKGIWFGSGSPSSRHAMS YKISQQTQPLSWLTLHFQYHGFYSSSTFCNYLNGEIALRF

SEQ ID NO: 20 (pmpF)(CT870)

MIKRTSLSFACLSFFYLSTISILQANETDTLQFRRFTFS DREIQFVLDPASLITAQNI VLSNLQ
 SNGTGA CTISGNTQTQIFSNSVNTTADSGGAFDMVITSFTASDNANLLFCNNYCTHNKG
 GGAI RSGGPIRFLNNQDVLFYNNISAGAKYVGTGDHNEKNRGGALYATTITLTGNRTLA
 F INMSGDCGGAISADTQISITDTVKGILFENNHTLNH IPYTQAENMARGGAICSRDLC
 SIS NNSGPIVFNQNQGGKGGAI S ATRCVIDNNKERIIFSNNSSLGWSQSSASNGGAIQTTQGF
 TLRNNKGSIYFDSNTA THAGGAINCGYIDIRDNGPVYFLNN SAWGA AFNLSKPRSATN
 YIHTGTGDIVFNNNVFTLDGNLLGKRKLHINNNEITPYTSLGAKKDTRIYFYDLFQW
 ERVKENTSNNPPSPTS RNTITVNPETEFGAVVFSYNQMSSDIRLMGKEHNYIKEAP TTL
 KFGTLAIEDDAELEIFNIPFTQNP TSL ALGSGATLTVGKHGKLNTNLGVILPILKEGKSP
 PCIRVNPQDMTQNTGTGQTPSSTSSISTPMII FNGRLSIVDENYESVYDSMDLSRGKAEQLI
 LSIETTNDGQLDSNWQSSLNTSLLSPPHYGYQGLWTPNWITTYTITLNNNNSAPTSATSI

AEQKKTSETFTPSNTTASIPNIKASAGSGSGSASN SGEVTITKHTLVVNWAPVGYIVDPIR
 RGDLIANSLVHSGRNMTMGLRSLLPDNSWFALQGAATTLFTKQQKRLSYHGYSSASKG
 YTVSSQASGAHGHKFLLSFSQSSDKMKEKETNNRLSSRYYL SALCFEHPMFDRIALIGAA
 ACNYGTHNMRSFYGTKSSKGKFHSTTLGASLRCELRDSMPLRSIMLTPFAQALFSRTEP
 ASIRESGDLARLFTLEQAHTAVVSPIGKGA YSSDTWPTLSWEMELAYQPTLYWKRPLLN
 TLLIQNNGSWVTTNTPLAKHSFYGRGSHSLKFHLKLFANYQAEVATSTVSHYINAGGA
 LVF

SEQ ID NO: 21 (pmpG)(CT871)

MQTSFHKKFLSMILAYSCCSLSGGGYAAEIMIPQGIYDGETLTVSFYTIVGDPGTTVFSA
 GELTLKNLDNSIAALPLSCFGNLLGSFTVLGRHSLTFENIRTSTNGAALSDSANSGLFTIE
 GFKELSFNSNCNSLLAVLPAAATTNNGSQTPTTSTPSNGTIYSKTDLLLNNNEKFSFYSNLV
 SGDGGAIADAKSLTVQGISKLCVFPQENTAQADGGACQVVTTSFSAMANEAPIAFIANVAGV
 RGGGIAAVQDGQQGVSSSTSTEDPVVSFSRNTAVEFDGNVARVGGGIYSYGNVAFLNNG
 KTLFLNNVASPVYIAAEQPTNGQASNTSDNYGDGGAIFCKNGAQAAGSNNSGSVSFGE
 GVVFFSSNVAAAGKGGAIVAKKLSVANC GPVQFLGNIANDGGAIYLGESGELSLSADYGD
 IIIFDGNLKRTAKENAADVNGVTVSSQAIMSGGGKITTLRAKAGHQILFNDPIEMANGNN
 QPAQSSEPLKINDGEGYTGDIYEANGNSTLYQNVTIEQGRIVLREKA KLSVNSLSQTGGSL
 YMEAGSTLDFVTPQPPQPPAANQLITLSNLHLSSLLANNAVTNPPTNPPAQDSHPAII
 GSTTAGSVTISGPPIFFEDLDDTAYDRYDWLGSNQKIDVVLKLOLGTQPSANAPSDLTLGNE
 MPKYGYQGSWKLAWDPTANNGPYTLKATWTKTGYNPGPERVASLVPNSLWGSILD
 SAHSAIQASV DGRSYCRLWVSGVSNFFYHDRDALGQGYRYISGGYSLGANSYFGSSMF
 GLAFTEVFGRSKDYVVCRSNHHACIGSVYLSTKQALCGSYLFGDAFIRASYGFGNQHMK
 TSYTFAEESDVRWDNNCLVGEIGVGLPIVTPSKLYLNELRPFVQAEFSYADHESFTEEGD
 QARAFRSGHLMNLSPVGVKFDRCSSTHPNKYSFMGAYICDAYRTISGTQTTLLSHQET
 WTTDAFHLLARHGVIVRGSMYASLTSNIEVYGHGRYEYRDTSRGYGLSAGSKVRF

SEQ ID NO: 22 (pmpH)(CT872)

MPFSLRSTSFCFLACLCSYGFASSPQVLTPNVTTPFKGDDVYLN GCAFVN VYAGAE
 NGSIISANGDNLITGQNHTLSFTDSQGPVLQNYAFISAGETLTLKDFSLMF SKNVSCGE
 KGMISGKTVSISGAGEVIFWDNSVGYSPLSIVPASTPTPPAPAPAPAASSSLSPVSDARKG
 SIFSVETSLEISGVKKGVMF DNNAGNFGTVFRGNSNNNAGSGGGSGSATTPSFTVKNCKGK
 VSFTDNVASC GGGVVYKGTVLFKDNEGGIFFRGNTAYDDLGLILAATSRDQNTETGGGG
 GVICSPDDSVKFEGNKGSI VFDYNFAKGRGGSILTKEFSLVADD SVFSNNTAEKGGA
 YAPTI DISTNGGSILFERNRAEAGGAICVSEASSG STGNLTL SASDGDIVFSGNMTSDRPGE
 RSAARILSDGTTVSLNASGLSKLIFYDPVVQNNSAAGASTPSPSSSSMPGA VTI NQSGNGS
 VIFTAESLTPSEKLQVLQVNSTS NFPGALT VSGGELVVTEGATLTTGTITATSGRVTLGSGAS
 LSAVAGAANNYNTCTVSKLGIDLESFLTPNYKTA ILGADGT VTVNSGSTL DLVMESEAE
 VYDNPLFVGSLTIPFVTLSSSSASNGVTKNSVTINDADAHYGYQGSWSADWTKPPLAP
 DAKGMVPPNTNNTLYLTWRPASNYGEYRLDPQRKGELV PNSLWVAGSALRTFTNGLKE
 HYVSRDVGFA SLHALGDYILNYTQDDRDGF LARYGGFQATAASHYENG SIFGVAFGQ
 LYGQT KSRMYYSKDAGNMTMLSCFGRSYVDIKGTETV MYWETAYGYSVHRMHTQYF
 NDKTQKFDHSKCHWHHNNYYAFVGAEHNFLEYCIPTRQFARDYELTGFMRFEMAGGW
 SSSTRET GSLTRYFARGSGHNM SLPIGIVAHAVSHVRRSPPSKLTLMGYRPDIWRVTPH
 CNMEEIANGVKTPIQGSPLARHAFFLEVHDTLYIHHFGRAYMNYSLDARRQTAHFVSM
 GLNRIF

SEQ ID NO: 23 (pmpI)

MRPDHMNFCCCLCAAILSSATAVLFQDPLGETALLTKNPNVVCTFFEDCTMESLFPALC
 AHASQDDPLYVLGNSYCWVFSKLHITDPEKEALFKEKGDL SIQNFRFLSFTDCSSK ESSPSII
 HQKNGQLSLRNNGSMSFCRNHAEGSGGAISADAFSLQHNYLFTA FEENSSKGNGGAIQA

QTFSLSRNVSPISFARNRADLNGGAICCSNLICSGNVNPLFFTGNSATNGGAICCISDLNTS
 EKGSLSLACNQETLFAKSNAKEKGGAITYAKHMVLRYNGPVSFINNSAKIGGAIAIQSGGS
 LSILAGEGSVLFQNNNSQRTSDQGLVRNAIYLEKDAILSSLEARNGDILFFDPIVQESSKES
 PLPSSLQASVTSPTPATASPLVIQTSANRSVIFSSERLSEEKTPDNLTSQLQQPIELKSGRL
 VLKDRAVLSAPSLSQDPQALLIMEAGTSLKTSSDLKLATLSIPLHSDLTEKSVTIHAPNLSI
 QKIFLSNSGDENFYENVELLSKEQNNIPLTLSKEQSHLHLPDGNLSSHFGYQGDWTFSW
 KDSDEGHSLIANWTPKNYVPHPERQSTLVANTLWNTYSDMQAVQSMINTIAHGGAYLF
 GTWGSAVSNLFYAHDSSGKPIDNWHHRSLGYLFGISTHSLDDHSFCLAAGQLLGKSSDSF
 ITSTETTSYIATVQAQLATPLMKISAQACYNESIHELKTKYRSFSKEGFGSWHSVAVSGEV
 CASIPIVNSGSGLFSSFSIFSKLQGFSGTQDGFEESSGEIRSFSASSFRNISLPMGITFEKKSQ
 KTRNYYYFLGAYIQDLKRDVESGPVVLKNAWSWDAPMANLDSRAYMFRLTNQRALH
 RLQTLLNVSYVLRGQSHSYSLDLGTTYRF

SEQ ID NO: 24 (MOMP)(CT681)

MKKLLKSVLVFAALSSASSLQALPVGNPAEPSLMIDGILWEGFGGDPCDPCATWCDAIS
 MRVGGYYGDFVFDRVLKTDVNKEFQMGAKPTTDGNSAAPSTLTARENPAYGRHMQDA
 EMFTNAACMALNIWDRFDVFCTLGATSGYLKGNNSAFNLVGLFDNENQKTVKAESVP
NMSFDQSVVELYTDITTEAWSVGARAALWECGCATLGASEQYAQSKPKVEELNVLCNA
 AEFTINKPKGYVGKEFPLDLTAGTDAATGTDASIDYHEWQASLALSYRLNMFTPYIGV
 KWSRASFDADTIRIAQPKSATAIFDTTLNPTIAGAGDVKTGAEGQLGDTMQIVSLQLNK
 MKSRKSCGIAVGTTIVDADKYAVTVETRLIDERAAHVNAQFRF

SEQ ID NO: 25 CSFIGGITYL**SEQ ID NO: 26 SFIGGITYL****SEQ ID NO: 27 SIIGGITYL****SEQ ID NO: 28 (Cap1)(CT529)**

MASICGRLGSGTGNALKAFFTQPNNKMARVVNKTGMDKTIKVAKSAAELTANILEQA
 GGAGSSAHITASQVSKGLGDARTVVALGNAFNGALPGTVQSAQSFFSHMKAASQKTQE
 GDEGLTADLCVSHKRRAAAACVSIIGGITYLATFGAIRPILFVNKMLAKPFLSSQTKANM
 GSSVSYIMAANHAASVVGAGLAISAERADCEARCARIAREESLLEVPGEEENACEKKVAG
 EKAKTFTRIKYALLMLEKFLECVADVFKLVPLPITMGIRAIVAAGCTFTSAIIGLCTFCAR
 A

SEQ ID NO: 29 (groEL-like hsp60 protein)

MVAKNIKYNEEARKKIQKGVKTLAEAVKVTLGPKGRHVVIDKSFQSPQVTKDGVTVAK
 EVELADKHENMGAQMVKEVASKTADKAGDGTATVLAEEAIYTEGLRNVTAGANPM
 LKRGIDKAVKVVVDQIRKISKPVQHHKEIAQVATISANNDAEIGNLIAEAMEKVGKNGSI
 TVBEAKGFETVLDIVEGMNFNRGYLSSYFATNPETQECVLEDALVLIYDKKISGIKDFLPV
 LQQVAESGRPLLIAEDIEGEALATLVVNRIRGGFRCAVKAPFGDRRKAMLEDIAILTG
 GQLISEELGMKLENANLAMLGKAKKVIVSKEDTTIVEGMGEKEALEARCESIKKQIEDSS
 SDYDKEKLQERLAKLSSGVAIRVGAATEIEMKEKKDRVDDAQHATIAAVEEGILPGGG
 TALIRCIPITLEAFLPMLTNEDEQIGARIVLKALSAPLQIAANAGKEGAIIFFQQVMSRSANE
 GYDALRDAYTDMLEAGILDPAKVTRSALESAASVAGLLTTEALIAEIPEEKPAAPAMP
 GAGMDY

SEQ ID NO: 30 (omp2/omcB)

MRIGDPMNKLIRRATVFAVTSVASFASGVLETSMAESLSTNVISLADTKAKDNTSHKS
 KKARKNHSKETPVDRKEVAPVHESKATGPKQDSCFGRMYTVKVNDDRNVEITQAVPEY

ATVGSPYPIEITATGKRD CVDVIITQQLPCEAEFVRSDPATTPTADGKLVWKIDRLGQGEK
 SKITVVVKPLKEGCCFTAATVCACPEIRS VTKCGQPAICVKQEGPENACLRCPVYKINI
 VNQGTATARNVVENPVPDGYAHSSGQRVLTFTLGDMDQPGEHRTITVEFCPLKRGAT
 NIATVSYCGGHKNTASVTTVINEPCVQVSIAGADWSYVCKPVEYVISVSNPQDLVLRDV
 VVEDTLSPGTVLEAAGAQISCNKVVWTVKELNPGESLQYKVLVRAQTPGQFTNNVV
 KSCSDCGTCTSCAEATTYWKGVAATHMCVVDTCDPVCVGENTVYRICVTNRGSAEDTN
 VSLMLKFSKELQPVSFSGPTKGITGNTVVFDLSPRLGSKETVEFSVTLKA VSAGDARGE
 AILSSDTLTVPVSDTENTHIY

SEQ ID NO: 31

MFRYTLSRSLFFILALFFCSACDSRSMITHGLSGRDANEIVVLLVSKVAAQKVPQAASST
 GGSGEQLWDISVPAAQITEALAILNQAGLPRMKGTLLDLFAKQGLVPSEMQEKIRYQEG
 LSEQMATTIRKMDGIVDASVQISFSPEEEDQRPLTASVYIKHRGVLDNPNSIMVSKJRKLV
 ASA VPGLCPENSVVSDRASYS DITINGPWGLSDEMNYVS VWGII LAKHSLTKFRLVFYF
 LILLLFILSCGLLWVIWKTHTLISALGGTKGFFDPAPYSQLSFTQNKPAPKETPGAAEGAE
 AQTASEQPSKENAEKQEENNEDA

SEQ ID NO: 32 (CT600)

MRKTIFKAFNLLFSLFLSSCSYPCRDWECHGCD SARPRKSSGFVFPFYSDEEIQQAFVED
 FDSKEEQLYKTSQAQSTSFRNITFATDSYSIKGEDNLTILASLVRHLHKSPKATLYIEGHTDE
 RGAAAYNLALGARRANA V KQYLIKQGIAADRLFTISYGKEHPVHPGHINELAWQQNRRT
 EFKIHAR

SEQ ID NO 33 (CT541)

MKNILSWMLMFAVALPIVGCDNGGGSQTSATEKSMVEDSALTDNQKLSRTFGHLLSRQ
 LSRTEDFSLDLVEVIKGMQSEIDGQSAPLTDTEYEKQMAEVQKASFEAKCSENLASAEKF
 LKENKEKAGVIELEPNKLQYR VVKEGTGRVLSGKPTALLHYTGSFIDGKVFDSSEKNKEP
 ILLPLTKVIPGFSQGMQGMKEGEV RVL YIHPDLAYGTAGQLPPNSLLIFEVKLIEANDDNV
 SVTE"

SEQ ID NO 34 (CT623)

MKKYFYKGFVGALLACGSTNL AFAQASSMDSQLWSVEDLDSYLSKG FVETRKRDGV
 LRLAGDV RARWIYAKEDLETTQTPAKPMLPTNRYRSEFNL YVDYTAANSWMTSKMNW
 VTIAGGESSAAGLDINRAFLGYRFYKNPETQAEVFAEIGRSGLDIFDSDVQFNSNFDGIH
 LYAARRISEKLPFTMIVHGGPFVNMAEKEYAWVVEAILNKLPGNFVVKTSVVDWNTL
 TAKTNPDADASAAQPAKPN TKYDYLWQWLVGKSTAMPWFNGQTKNLYTYGAYLFN
 PLAEIPENWKQSTTPPTKITNGKENHAWFIGCSLGGVRRAGDWSATVRYEYVEALAIPEI
 DVAGIGRGNQMKYWFQAQAIKQGLDPKESNGFTNYKGVS YQFVMGLTDSVSFRAYAAY
 SKPANDNLGSDFTYRKYDLGLISSF

SEQ ID NO 35 (CT700)

MWLIVASTLLACLAMALVFKAYRHVISFRSYVNQVIRDVRLSVDLKEWAVAEMRLA PIL
 KKRQYRRKYLFEYIRLRELERFEEAKLLGEAKKLKLAGAHFFLEVAHKAFRHGAYKE
 AAHAFSLLSAELMGEREVAR YTISL VYLGEVDAACRIIEPWI GPLAHQEVFISVGHYFAT
 KRYADAIDFYRRARSLGSCP IDVLYNLAHSLRJCGQYVDAGMLFRELLGDPVYKDEAMF
 NIGLCEQKLGNSKKALLIYQNSELWVRGDALMMRYAALAAADQ QDYQLA EHCWT LAF
 RCQSYADDWNCCVHYGLALCHLKKYAEAEKVYLRVIQKTPDCLVACKALAWLAGVG
 HATMISAREGIA YAKRALQIKRSPEVLELLSACEAREGNFDVAYDIQAILAERDTTAKER
 ERRSQLKNLRQKLPIDQQHIVEV SLLAA

SEQ ID NO 36 (CT266)

MLVESQLGLEDVLEAFSERNFDIQSKSFIESFQDKLRRRTVIQRFLHHPLLHIIHDIARAAYL
 LAALEEGVDLGYQFLCMHQQTSGAALLFRRAGFLWGLPYGEHAEMAMLLSRIAEIFY
 DTSYEQVQKMAIFQHALFSHERNIFPALWSQEGRSNQEKTAVSKLLFCQKEARIEDQFT
 LTDMMSLGFWMRRTPSFAYVSGSGCKSGVGAFLIGDVGVLNYGPCVGDPGECLGFLC
 GQVKEFSCQEKEDEEVISFAGALSQPSSRTGFSYLQDALFSTNSCYCIDITEQKCHVASS
 LDRENQDAFFAIFCKGSQCQVCNGPKLRTGSPDSYKGPAVDVLIKGEKETVRILSSSPHM
 EIFSLQGKDRFWGSNFLINLPYTQNSINILFEKA

SEQ ID NO 37 (CT077)

MGKFFASYLLILAPFLQSCSAPSRTTLEGVRMTIPYRIVFGEALSPDAFQQAQKEIDRVF
 DHIDQTFNNWNPLSEISIRINRTKQTPILSPALFAFLCEIDHFHAFSDGRFDPTLGALKSL
 WLLHLKSHTIPSQELQHLYKHSSGWHLISLDKTQQLRKLSPVQLDLCGTVKGFAVDL
 LGTACAQFCQNYYVEWGGIEIKTKGKHPGRSWAVASSATPEILHLHDHAIATSGSQYQR
 WHVDNKTYTHILDPLTGTPLEDSSHPIALSVINESCAFADAMATALTFSSKQEALDWA
 NKKHLCAYITDKNVS

SEQ ID NO 38 (CT456)

MTNSISGYQPTYTTSTSSTSASGASGSLGASSVTTANATVTQTANATNSAATSSIQTTG
 ETVVNYNTNSASAPNVTVSTSSSTQATATSNKTSQAVAGKITSPDTSESSSETSSSSDHIP
 SDYDDVGSNSGDISNNYDDVGSNNGDISSNYDDAAADYEPIRTTENIYESIGGSRTSGPEN
 TSGGAAAALNSLRGSSYSNYDDAAADYEPIRTTENIYESIGGSRTSGPENTSGGAAAALN
 SLRGSSYSNYDDAAADYEPIRTTENIYESIGGSRTSGPENTSDGAAAALNSLRGSSYTTG
 PRNEGVFGPGPEGLPDMSLPSYDPTNKTSLTFLSNPHVKSCKMLENSGHFVFDITDRSSFI
 LVPNGNWDQVCSIKVQNGKTKEDLDIKDLENMCAKFCGFSKFDWDSDLVEPMVSAK
 AGVASGGNLPTVIIINNKFKTCVAYGPWNSQEASSGYTPSAWRRGHRVDFGGIFEKAND
 FNKINWGTQAGPSSEDDGFSNETPGAGPAAAPSPTPSSIPINVNVNVGGTNVNGDTNV
 NTTNTTPTTQSTDASTDTSIDDDINTNNQTDDINTTDKDSDGAGGVNGDISETESSSGDDS
 GSVSSSESDKNASVGNNDGPAMKDILSAVRKHLVVYPGENGGSTEGLPANQTLGDVIS
 DVENKGSAQDTKLSGNTGAGDDDPTTAAVGNGAEITLSDTDGIGDDVSDTASSSGD
 ESGGVSSPSSSENKNTAVGNNDGPSGLDILAAVRKHLKVVYPGENGGSTEGLQANQTLG
 DIVQDMETTGTQETVSPWKGSTSSESAGGGSVQTLPSPPPTPSTTLLRTGTGATT
 SLMMIGGPIKADITGGGRIPGGGLEKLLPRIRAHLDISFDAQGDLVSTEEPQLGSIVNK
 FRQETGSRGILAFVESAPGKPGSAQVLTGDDKGNLFQAAAATQALGNVAGKVNLA
 QGQKLSSLVNNDDGKGSGVGRDLFQAAAQTQVLSALIDTVG

SEQ ID NO 39 (CT165)

MFQPETVPSNRSTETTPQNIEVYNDRNFNTNHTTEDVIRIGERLQRQFYNMTEESRVPFTTS
 PSHHTGNWKTAFLYNLSQLSVVAIFPSTVQPIRKPTRIPSPPPPPEGTTAETSENKVT
 TISKEQEVTIKPLLVRERRSLLHSQ

SEQ ID NO 40 (CT713)

MSSKLVNYLRLTFLSFLGIASTSLDAMPAGNPAPVPIPGINIEQKNACSFDLCSNSYDVLSA
 LSGNLKLCFCGDYIFSEEAQVKDVPVVTSTTAGVGPSPDITSTTKTRNFDLVNCNLNTN
 CVAVAFLSPDRSLSAIPLFDVSFEVKVGGLKQYYRLPMNAYRDFTSEPLNSESEVTDGMI
 EVQSNYGFVWDVSLKKVIWKGDSFVGVGADYRHASCPIDYIILANSQANPEVFIADSDG
 KLNFKEWSCVGLTTYVNDYVLPYLAFIGSVSRQAPDDSFKKLEDRFTNLKFKVRKITS
 SHRGNICIGATNYVADNFFYNVEGRWGSQRAVNVSQGFQF

SEQ ID NO 41 (CT082)

MSISSGNVSPATPDFDPSILMGRQAASAHAAKEASGASKATESETSAAEQQALISSGTELD
 YVTDLQQSEGKYKKTLDKTSKSPKTKLKGNSKVRAGTKGFLTGFGRASRISARKAEN

NCEGMSMIPSQMEYVKKKGNRVSPEMQNFYLGASGLWSPTSDVSSITENCLGATALSTT
 PLLTTMQDPVSIEHLSSGEITALASFNPNVRTASLNEQTINAWTEARLGEMVSTLLDPNI
 ETSSLLRRAPTVSNEGMDVSDMGNQTTSLSMEGLVNTVVDPPASAEEKKTGELSLEE
 MAAMAKMMAALLSSGQGMAVFIASSTPSSGLTQFPEPKFSGTIPHFSKKEDNETIWGL
 DSQIGSIAFDTRRENNASPLPTTSIHEEASYRFPVGEAPLDVNEIPFAVQHSTVFSKETANT
 EQALIQNESLGEIPVSAEVVGQDTVSSAYQFPSHLGMALASVPLSTEDYKTAVEHRKGP
 GGPPDPLIYQYRNVAVDPAIIQFQSPSPFVSSRFSVQGKPEAVAVYNDQEEAAGGNRDS
 DEGKDQEQDKTRETEDAGGS

SEQ ID NO 42 (CT181)

MLSKFKLSSLAILINTLAPSETFSEEGTSGFLGRMKSWILKDKTILSTTEESQTSIAEKVS
 DLLSWKRYDYTQESGFAIQFPESPEHSEQVIEVPQSDLAIRYDTYVAETPSDSTVYVVSIW
 EYPEKIDISRPELNQEGFAGMLYALPESQVLYLKATALQGHKALEFWIACDDVYFRGM
 LVSVNHTLYQVFMVYKGRSPEILDKEYSTFIQSFKVTKVRNSKKMDIRKRVSL

SEQ ID NO 43 (CT050)

MNDTKNNISSSFWNPNKVVTKVLKVSETGIESTPGIVKHNQLITQSENPTDPTDAVTFK
 YLKENYTKENDPNPGELPTTGGTMTGDIQMGNNTDLYMYTNGQQNPTDDSAVTIGY
 LNEKADEIKSNDQITTAVAGLSNINSQISTLHQLLGIAEDPDTVTNPDLKTSGGTVYEDI
 DMSSNTVSDLGTPTNKTSAINVEFVQAKITSPQMAFLKNNDTNLSNITVSEYFNWLQ
 DPTQAPTPEPDPEPEPEPDTSDDSGSGSENADPAPTNPSDSNAQNNPTPSNGATAS
 IRKLAATTITVPTDTEIAPAEDPNLPNTTSEKSPLEWEFFSFSDSSRSEMVIQKTGILTFS
 MQGTWENPSSSQTPSTDPISELTVPPTTDPESPPSPEAAPAEATPSPTNNNLASITK
 TFSRKYNLSATPSPTPTPTEPTTITKTLSSGQCTLQIPVQATRSVLKLKYVNPNNNS
 GGSSGSGSSSQETPTGITALQSFWSLVLTGEITKATSTPSTPSQP

SEQ ID NO 44 (CT157)

MSVQGSSSLKYSDFLKPPEPTSSTDSSKEPPKESAWKVVSHSRGRRARSNPSPHTSQNTP
 SPKDSSLVARTDKAATDIFNSAKHKAETTKRSDQSRSLHILHLLAENPEPIVFHSAHQT
 NHNDPQRMLCDAILQANRJITMRIFNIGSPEIRALIRA VRRNIPVVSAWNFPNLSNWDR
 ESELCELRGNPQICLHKKTTLDNQLTIIGTANYTKSSFFKDINLTALIQNPAlysLILSDT
 RGSVSIGSQTISYYPLPFPQSNTKILPIIQEIQKAQRTIKIAMNIFSHTEIFLALEQARLRGVTI
 TIVINKKESAHTLDILHRISALLLKSVTVDLHAKICLIDNQTLIFGSPNWTYHGMHKN
 LEDLLIVTPLPKQIHSIQEIWAFLLKNSSPV

SEQ ID NO 45 (CT128)

MDRSPLFLIIMGAPGSGKGTQSKLLASQLSLHISSGDLRDAVSKDTPLSQEIKSYLDQG
 KLLPDTLVWKLVHEKLDQFDLRLSFLRSSENSAILDGFPRVTQAKLLHEFLSSYF
 PNYKVILLDISDEEVNLRLTSRYICPACQGIYNEQQGFSSCPKCSVELIRRSDDTLEVILDRI
 QTYKQETQPVLDDYYTEKQLITIDANAPTQQVFQSILDSLASLTVYQERDCCNCDCDDED

SEQ ID NO 46 (CT153)

MTKPSFLYVIQPFVFNPRLGRFSTDSDTYIEENRLASFIESLPLEIFDIPSFMETAISNSPYI
 LSWETTKDGALFTILEPKLSACAATCLVAPSIQMKSDAELLEEIKQALLRSSHDGVKYRIT
 RESFSPEKKTPKVALVDDIELIRNVDFLGRAVDIVKLDPINLNTVSEENILDYSFTRETA
 QLSADGRFGIPPGTKLFPKPSFDVEISTSIFEETTSFRSFSASVTFSPDLAATMPLQSPPM
 VENGQKEICVIQKHLFPSYSPKLVDIVKRYKREAKILINKLAFGMLWRHRAKSQILTEGS
 VRDLQGFTESKYNQIQVGSHTIAAVLIDMDISKIQSKSEQAYAIRKIKSGFQRSLLDDYH
 IYQIERKQTFSPKHRSLSSHTSHEDSDLLSEAAAFSGSLTCEFVKKSTQHAKNTVTCST
 AAHSLYTLKEDDSSNPSEKRLDSCFRNWIENKLSANSPDSWSAFIQKFGTHYIASATFGGI
 GFQLKLSFEQVEDLHSKKISLEAAANSLLKGSSVSSSTESGYSSYSSSSHTVFLGGTV

LPSVHDERLDFKDWSESVHLEPVPIQVSLQPITNLLVPLHFPNIGAAELSINKRESLQQAIR
 VYLKEHKVDEQGERTTFTSGIDNPSSWFTLEAAHSPLIVSTPYIASWSTLPYLFTPRLRERSS
 ATPIVFYFCVDNNEHASQKILNQSFCFLGSLPIRQKIFGSEFASFPYLSFYGNAKEAYFDNT
 YYPTRCGWIVEKLNITQDQFLRDGDEVRLKHVSSGKYLATTPLKDTHGTLTRTTNCEDA
 IFIUKKSSGY

SEQ ID NO 47 (CT262)

MKKFLLSLMSLSSLPTFAANSTGTIGIVNLRCLEESALGKESAEFEKMKKNQFSNSMG
 KMEEELSSIYSKLQDDDYMEGLSETAAELRKKFEDLSAEYNTAQGQYYQILNQSNLKR
 MQKIMEEVKKASETVRIQEGLSVLLNEDIVLSIDSSADKTDAVIKVLDASFQNN

SEQ ID NO 48 (CT276)

MPKRAKNAKFFDEVQTLYEDSGANSTSYSIYPQRTTERLENHSNIFEPAKPAETRLLSQEEHS
 QWTDQQEEELATQESSFPEEPETTLGEGVFSKGELETFERLLRIDGTPEGILVSKGKIVGPQG
 YVKANIELEEAVIAGVVEGNITVTGRVSLQGRAMVTGDIQAGSLCVDEGVRLCGYVSIQ
 GAPSNEQEEIDS

SEQ ID NO 49 (CT296)

MRAVLHLEHKRYFQNHIGHILFEGLAPVSDCKQLEAELKLFKEVAVKDRHLQRWREN
 VRRTLPEVQMVKRVRLDHLAAELTHRSRVALVRDLWVQKQEEIFFDDCDCSCLLCLSG
 EKAGWGLFFSGEYPQDVFNWGAGDTAIIIRFSSAGFPN

SEQ ID NO 50 (CT372)

MQAHHHHYHRYTDKLHRQNKKDLISPCKPTEQEACNTSSLKELIPLSEQRGLLSPICDFI
 SERPCLHGVSVRNLKQALKNSAGTQIALDWSPQWFNPRVSHAPKLSIRDGFYSAHQTV
 TEATPPCWQNCNCFNPSAAVTIYDSSYKGQVFSQISYTLVRYWRENAATAGDAMMLAGSIN
 DYPSRQNIFSQFTFSQNFNERVSLTIGQYSLYAIDGTLYNNDQQLGFISYALSQNPTATYS
 SGSLGAYLQVAPTAESTSLQIGFQDAYNISGSSIKWSNLTKNRYNFHGFASWAPRCCLGSG
 QYSVLLYVTRQVPEQMEQTMGWSVNASQHISSKLYVFGRYSGVTGHVFPINRTYSFGM
 ASANLFNRNPQDLFGIACAFNNVHLSASPNTKRKYETVIEGFATIGCCPYLSFAPDFQLYL
 YPALRPNKQSARVSVRANLAI

SEQ ID NO 51 (CT412)

MNRVIEIHAHYDQRQLSQSPNTNFLVHHYPLTLIPKFLLGALIVYAPYSFAEMELAISGHK
 QGKDRDTFTMISSCPEGTYIINRKLILSDFSLLNKVSSGGAFRNLAGKISFLGKNSASIH
 FKHININGFGAGVFSESSIEFTDLRKLVAFGSESTGGIFTAKEDISFKNNHIAFRNNITKGN
 GGVIQLQGDMKGVSFVDQRGAIIFTNNQAVTSSSMKHSGRGGAIISGDFAGSRILFLNNQ
 QITFEGNSAVHGGAINKNGLVEFLGNAGPLAFKENTIANGGAIYTSNFKANQQTSPILF
 SQNHANKGGAIYAQYVNLEQNQDTIRFEKNTAKEGGGAITSSQCSITAHTNIIIFSDNA
 AADLGGGAILLEGKKPSLTIAHSGNIAFSGNTMLHITKKASLDRHNSILIKEAPYKIQ
 NKNHSIHFDPVMALSASSSPIQNAPEYETPFFSPKGIVFSGANLDDAREDVANRTSIF
 NQPVHLYNGTLSIENGAHLIVQSFQKTGGRISLSPGSSLALYTMNSFFHGNISSKEPLEING
 LSFGVDISPSNLQAEIRAGNAPRLSGSPSIHDPEGLFYENRDTAASPYQMEILLTSDKIVDI
 SKFTTDSLVTNKQSGFQGAWHFSWQPNTINNTKQKILRASWLPTGEYVLESNRVGRAVP
 NSLWSTFLLLQTAshNLGDHLCNNRSLIPTSYFGVLIGGTGAEMSTHSSEEESFISRLGAT
 GTSIIRLTPSLTLSGGGSHMFGDSFVADLPEHITSEGIVQNVGLTHVWGPLTVNSTLCAAL
 DHNAMVRICSKKDHTYKGWDTFGMRGTLGASYTFLEYDQTMRVFSFANIEATNILQRA
 FTETGYNPRFSKTKLLNIAPIGIGYEFCLGNSSFALLGKGSIGYSRDIKRENPSTLAHLAM
 NDFAWTTNGCSVPTSAHTLANQLILRYKACSLYITAYTINREGKNLSNSLSCGGYVGF

SEQ ID NO 52 (CT480)

MIDKIIIRTILVLSLFLLYWSSDLLEKDVKSIIKRELKALHEDVLELVRISHQQKNWWQSTDF
 SVSPEISVLKDCGDPAPPNLLCEDPYVEKVVPSLLKEGFVPKGILRTAQVGRPDNLSPFNG
 FVNIVRFYELCVPNLAVEHVGKYEEFAPSALKIEEHYVEDSGDKEFHILRPNMFWEPI
 IDPTLFPKNITLADSFLRPHPVTADVKFYDVVMNPYVAEMRAVAMRSYFEDMVSVR
 VENDLKLIVRRAHTVRNEQGEEKKVLYSAFANTLALQPLPCFVYQHFANGEKIVPED
 SDPDTYRKDSVWAQNFSSHWAYNYIVSCGAFRAGMDDEKITLVRNPNYHNPFAALVE
 KRYIYMKDSTDLSLFQDFKAGKVDIAYFPPNHVDNLASFMQTSAYKEQAARGEAILEKNS
 SDRSYSYIGWNCLSLFFNNRSVRQAMNMLIDRDRUIEQCLDGRGVSGPFSLCSPSYNR
 DVEGWQYSPEEAARKLEEEGWIADGDGIREKVIDGVVVFRRFLCYYVKSVTARTIAE
 YVATVCKEVGIECCLLGLDMADYSQALEEKNFDAILSGWCLGTPPEDPRALWHSEGAL
 KGSANAAGFCNEEADRIEQLSYEYDSNKRQALYHRFHEVIHEESPYAFLYSRQYSLVYK
 EFVKNIFVPTEHQDLIPGAQDETVNLSMLWVDKEEGRCSAIS

SEQ ID NO 53 (CT548)

MLKMFWLNSLVFFSLLSACGYTVLSPHYVEKKFSLSEGIYVCPIEGDSLGLVSSLSYEL
 EKRLGHTRSQGTSSGYVLKVSFNETDENIGFAYTPQKDEKPVKHFIVSNEGRLALSAK
VQLIKNRTQEILVEKCLRKSVTDFQPDLTANAHQLALGQFEMHNEAISASRILYSQL
AETIVQQVYYDLE

SEQ ID NO 54 (CT043)

MSRQNAEENLKNFAKEKLKDVAFDQNNTCILFVDGEFSLHLYTEEHSDRLYVYAPLLD
 GLPDNPQRRLALYEKLLEGSMILGGQMAGGGVGVATKEQLILMHCVLDMKYAETNLLK
 AFAQLFIETVVVKWRTVCSDISAGREPTVDTMPQMPQGGGGIOPPPAGIRA

SEQ ID NO 55 (CT635)

MKNNSAQKIIIDSQKILSTYKIDFEPMSGATLTDDNDLDYQMLIEKTQEKIQELDKRSQEIL
 QQTGMTREQMEVFANPNPDNFSPPEWRALENIRSSCNEYKKETEELIKEVTNDIGHSSHKS
 PTPKKTKSSSQKKSKKKNWIPL

SEQ ID NO 56 (CT859)

MRKIIILCSPRGFCAGVIRAIQTVEVALEKWRPIYVKHEIVHNRHVDKLREKGAIIFEDL
 QEVPRNSRVIFSAHGVPPSVREEAEERGLIAIDATCGLVTKVHSAVKMYAKKGYHIIILIGK
 RKHVEIIGIRGEAPDQITVVENIAEVEALPFSAQDPLFYVTQTLMSDDAADIVAAALKARY
 PRIFTLPSSSICYATQNRQGALRNILPQVDFVYVIGDTQSSNSNRLREVAERRGVTARLVN
 HPDEVTEEILQYSGNIGTAGASTPEDVVQACLMKLQELIPDLSIEMDLFVEEDTVFQLPK
 EL

SEQ ID NO 57 (CT671)

MELNKTSESLSAKIDHNHPRTEAHEPRDQREVRVFSLEGRSSTRQEKAIDRMPGRTSSRQ
 ESSKGSEEGA VHESTAGVSSKEEEESKGDGFFTCGNPTSGMALVETPMAMVSEAMVETS
 TMTVSQVDLQWVEQLVTSTVESLLVADIDGKQLVEIVLDNSNTVPAFCGANLTLVQTG
 EEISVSFSNFVDQQLTEATQLVQQNPKQLVSLVESLKARQLNTELUVGNVAVSLPTIE
 KIETPLHMAATIRHHDQEGDQEGRQDQHQGQHQKEKKVEEAHI

SEQ ID NO 58 (CT016)

MKVKINDQFICISPYISARWNQIAFIESCDGGTEGGITLKLHLIDGETVSIPNLGQAIVDEVF
 QEHLIYLESTAPQKNKEEKISSLLGAVQQMAKGCEVQVSQKGLVSMLLGGAGSINV
 LQHSPEHKDHPDLPTDLERIAQMRSLSIGPTSLAKPEPHCNCLHCQIGRATVEEEDAG
 VSDEDLTFRSWDISQSGEKMVTDPNPEEQFNVYLGTPIGCTCGQPYCEHVKA
 VLYT

SEQ ID NO 59 (CT017)

MLIFALSGFADACLCAADLSKAKVEASVGDRAAFSPFTGEIKGNRVRLRLAPHTDSFIKE
LSKGDCLAVLGESKDYYVVAPEGVRGYVFRFVLDNVIEGEKVNVRLEPSTSAPIARL
SKGTVVKTLGAAQGKWIIEIALPKQCVFYVAKNFVKNVGALDLYNQKEGQKKLALDLLS
SAMDFADAELOKKIEDIDLDIAIYKKMNLAQSEEFKDPGLQSLVQKALERVQEAFLAKS
LEKSSVKVPEIRHKVLEELIAVVSPAVEETPVVTKTEEQKVTTVPVAPA VVTEPAQDLSSV
KGSLLSHYIRKKGFVKASPVIEGRESFERSLFAVWLSLQPEEIRHQLTMESFYRDEQKKKR
VLTGELEVYPHIVKNNPGDYLLKNGEDVVAFVYATSIDL SKWLGKSVVLECVSRPNNHF
AFPAYIVLSVKEGA

SEQ ID NO 60 (CT043)

MSRQNAEENLKNFAKELKLPDVAFDQNNTCILFVDGEFSLHHTYEEHSDRLYVYAPLLD
GLPDNPQRRLALYEKLLEGSMGLGGQMAGGGVGVATKEQLILMHCVLDMKYAETNLLK
AFAQLFIETVVKWRTVCSDISAGREPTVDTMPQMPQGGGGGIQPPPAGIRA

SEQ ID NO 61 (CT548)

MLKMFWLNSLVFFSLLSACGYTVLSPHYVEKKFSLSEGIYVCPIEGDSLGLDVSSL SYEL
EKRGLHTRSQGTSSGYVLKVSLFNETDENIGFAYTPQKPDEKPVKHFIVSNEGRLALSAK
VQLIKNRTQEILVEKCLRKSVTDFQPDLTG TANAHQLA LGOFEMHNEAIKSASRILYSQL
AETIVQQVYYDLF